



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/568,829

10/26/2006

Richard W. Siegel

0094.064A

6721

23405

7590

12/07/2009

HESLIN ROTHENBERG FARLEY & MESITI PC
5 COLUMBIA CIRCLE
ALBANY, NY 12203

EXAMINER

CHIN, HUI H

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

12/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,829	Applicant(s) SIEGEL ET AL.	
	Examiner HUI CHIN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 19-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/26/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in reference to the Response, filed on 11/3/2009.

Claims 1-42 are now pending where claims 1-18 have been elected without traverse and claims 19-42 have been withdrawn as directed to non-elected subject matter.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

Art Unit: 1796

double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 is provisionally rejected on the ground of nonstatutory double patenting over claim 9 of copending Application No. 10531998. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: a field grading material comprising a polymer matrix and a nanoparticle filler comprises less than 40% by volume of the field grading material.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Objections

Art Unit: 1796

3. Claim 6 is objected to because of the following informalities:

Claim 6, line 3: "elastomer/" is suggested to be changed to -- elastomer --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 10 recites the broad recitation 2 to 80 nm, and the claim also recites 5 to 50 nm and 5 to 30 nm which are the narrower statements of the range/limitation; claim 11 recites the broad recitation

Art Unit: 1796

less than 40% by volume, and the claim also recites less than 30% by volume and less than 20% by volume which are the narrower statements of the range/limitation.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 4-15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson et al. (US 2005/0027040).

Nelson et al. disclose an organic-inorganic nanocomposite comprising: at least one organic polymer; and at least one surface-modified inorganic additive such as titanium dioxide, wherein said inorganic additive is less than about 100 nanometers in size and said organic-inorganic nanocomposite comprises about 50% or less inorganic additive by weight which reads on “less than 40% by volume” (claims 1, 11, 22 and 43).

The limitations of claim 4 can be found in Nelson et al. at claim 11, where it discloses titanium dioxide.

The limitations of claim 5 can be found in Nelson et al. at claim 5, where it discloses polyolefin.

The limitations of claim 6 can be found in Nelson et al. at claim 5, where it discloses polybutadiene.

The limitations of claim 7 can be found in Nelson et al. at paragraph [0042], where it discloses polyethylene.

The limitations of claims 8, 9 and 17 can be found in Nelson et al. at paragraphs [0042] and [0043], where it discloses polymer blend of polyethylene and ethylene-propylene copolymer.

The limitations of claim 10 can be found in Nelson et al. at claim 22, where it discloses less than about 100 nm.

The limitations of claim 11 can be found in Nelson et al. at claim 43, where it discloses about 50% or less inorganic additive by weight which reads on less than 40% by volume.

Art Unit: 1796

The limitations of claims 12-15 can be found in Nelson et al. at claims 1 and 36, where it discloses the field grading material and surface modifier consists of carboxy and methyl groups.

8. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Foulger (US Patent 6,417,265).

Foulger discloses a conducting polymer composite comprising polymeric material and a conducting filler such as carbon nanotube (claims 1 and 9).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 2005/0027040), as applied to claims 1, 4-15 and 17, in view of Bernhoff et al. (US 2002/0070428).

The disclosure of Nelson et al. is adequately set forth in paragraph 7 and is incorporated herein by reference.

However, Nelson et al. are silent on the use of specific nanoparticle filler.

Art Unit: 1796

Bernhoff et al. disclose a semiconductive device comprising a field grading material, wherein the material comprises a polymer based material filled with particles of BaTiO₃, TiO₂, Al₂O₃, MgO, ZnO or SiC, wherein the device is preferably of a material having a band gap of exceeding 1.5 eV and dielectric constant of 7, to provide a semiconductor devices for high power applications (claim 17, [0003], [0032], [0036] and [0037]). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a field grading material using this specific nanoparticle filler with the expected success.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 2005/0027040), as applied to claims 1, 4-15 and 17, in view of Bernhoff et al. (US 2002/0070428).

The disclosure of Nelson et al. is adequately set forth in paragraph 7 and is incorporated herein by reference.

However, Nelson et al. are silent on the use in cable terminal.

Bernhoff et al. disclose a semiconductive device comprising a field grading material, wherein the material comprises a polymer based material filled with particles of BaTiO₃, TiO₂, Al₂O₃, MgO, ZnO or SiC, wherein the device is used as powder cable terminal, to provide a semiconductor devices for high power applications (claim 17, [0003], [0032], [0036], [0037] and [0041]). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a field grading material to be used in cable terminal with the expected success.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUI CHIN whose telephone number is (571)270-7350. The examiner can normally be reached on Monday to Friday; 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796

/HC/

Application/Control Number: 10/568,829
Art Unit: 1796

Page 10